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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,512	07/16/2004	Harvey Koselka	VR-P0003	4511
36067	7590	03/01/2006	EXAMINER	
DALINA LAW GROUP, P.C. 7910 IVANHOE AVE. #325 LA JOLLA, CA 92037			HUBER, JEREMIAH C	
			ART UNIT	PAPER NUMBER

2613

DATE MAILED: 03/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/710,512		KOSELKA ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Jeremiah C. Huber		2613	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 34-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 34-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 34-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ambrose (6595704) in view of Iwai et al (20050185049).

Ambrose discloses a camera mount coupled to a first and second camera mounted in a coplanar configuration, wherein the center lines of the first and second camera are collinear (Ambrose Figs. 9 and 10 col. 5 lines 20-22). Ambrose further discloses the camera mount (Ambrose "mount", "head" and "neck") is jointed to allow rotation about a 'first axis' (Ambrose "second roll joint" 100), and is further jointed to allow rotation about a 'second axis' which is orthogonal to the 'first axis' (Ambrose "second pitch joint" 98 and col. 6 lines 4-18). Ambrose also discloses a computer (Ambrose Fig. 16). It is noted that Ambrose does not disclose that the joints of the first and second axes can be rotated to angles between 0 and 90 degrees nor does Ambrose disclose a method to calculate distances using the first and second picture features along epipolar lines. Examiner takes official notice that joints capable of rotating to angles between 0 and 90 degrees were common and notoriously well known in the art at the time of the invention. Furthermore, Iwai discloses a method of

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measuring distance using a first picture (Iwai "base image") and a second picture (Iwai "detection image") using features along epipolar lines (Iwai par. 60). It is therefore considered obvious that one of ordinary skill in the art at the time of the invention would recognize the advantage of including in Ambrose the distance measuring method of Iwai, and joints capable of rotating to angles from 0 to 90 degrees in order to verify distance to the camera objective, and have a broader range of recording angles.

### ***Response to Arguments***

Applicant's arguments, see "Claim remarks with regards to 35 U.S.C § 112", filed 12/31/2005, with respect to claims 35-37, 40-42 and 45-47 have been fully considered and are persuasive. The rejection under 35 U.S.C § 112 of 35-37, 40-42 and 45-47 has been withdrawn.

Applicant's arguments with regards to 35 U.S.C § 103 filed 12/31/2005 have been fully considered but they are not persuasive.

Applicant asserts that the "roll axis" cited in Ambrose does not refer to the same axis as the "roll axis" in the claims. In particular stating that the "roll axis" of Ambrose does not "cock clockwise or counterclockwise about a 'nose' axis". However, the examiner asserts that the applicant is reading the limitations of the specification into the claims. The claims do not state that the particular "roll axis" claimed is refers to a rotation about the 'nose' axis. The claims are given the broadest reasonable interpretation this includes alternate definitions and naming conventions. With respect to

the statement in regards to the cameras acting like “chameleon eyes”, the cameras referred to in the rejection are the “main stereo cameras” (Ambrose par. 46 and fig. 11 114) which are not mounted as such.

Applicant further asserts that the invention of Iwai is directed at calibrating an existing camera with known test objects and not to “calculating distances to objects within three dimensional space in an environment comprising horizontal and vertical lines using an angled axis machine vision system”. The examiner agrees that the invention of Iwai includes the capability of calibrating existing cameras with known test objects, however it also includes the capability of calculating distances to objects using a “machine vision system”, since the vision system, and target, or “pattern drawn planes” (Iwai par. 73), of Iwai are a material objects any distance measures are inherently taken in three dimensional space, further the “pattern drawn planes” of Iwai are “an environment comprising horizontal and vertical lines” (Iwai figs. 3-5).

Applicant asserts that the reference cited by the examiner do not, alone or in combination, form a rejection with a “Reasonable expectation of success”, examiner asserts that the cited references, in combination, do form a rejection with a “Reasonable degree of success.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in

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the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Ambrose discloses that the stereo cameras are used to calculate the "position" of a robotic arm, which inherently involves distance calculations, however Ambrose does not disclose a specific method for calculating distance. Iwai provides a method for calculating the distance of an image using a machine vision system. The motivation to combine is considered obvious as a method of calculating distance such as that of Iwai is suggested by Ambrose. Further in regards to the motivation for combining Ambrose with joints capable of rotating between 0 and 90 degrees, although not cited in the references, it is well known in the art that the capability to rotate a camera through a wide angle is a desirable functionality especially in the applications of machine vision. Further although the applicant does not cite the use of 'joints' the word 'comprising' in the applicant's claims does not exclude additional structure or functionality such as the 'joints' recited by Ambrose.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremiah C. Huber whose telephone number is (571)272-5248. The examiner can normally be reached on Mon-Fri 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571)272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jeremiah C Huber  
Examiner  
Art Unit 2613



YOUNG LEE  
PRIMARY EXAMINER